

Fig. 1. General architecture of the multi-layered fuel cell membrane.

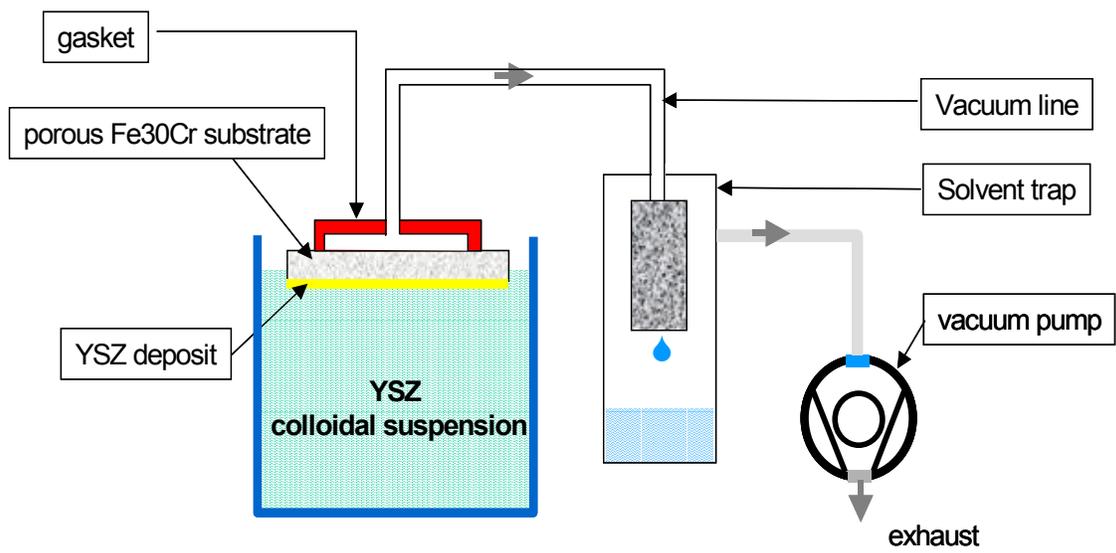


Fig.2 Schematic for YSZ vacuum infiltration deposition.

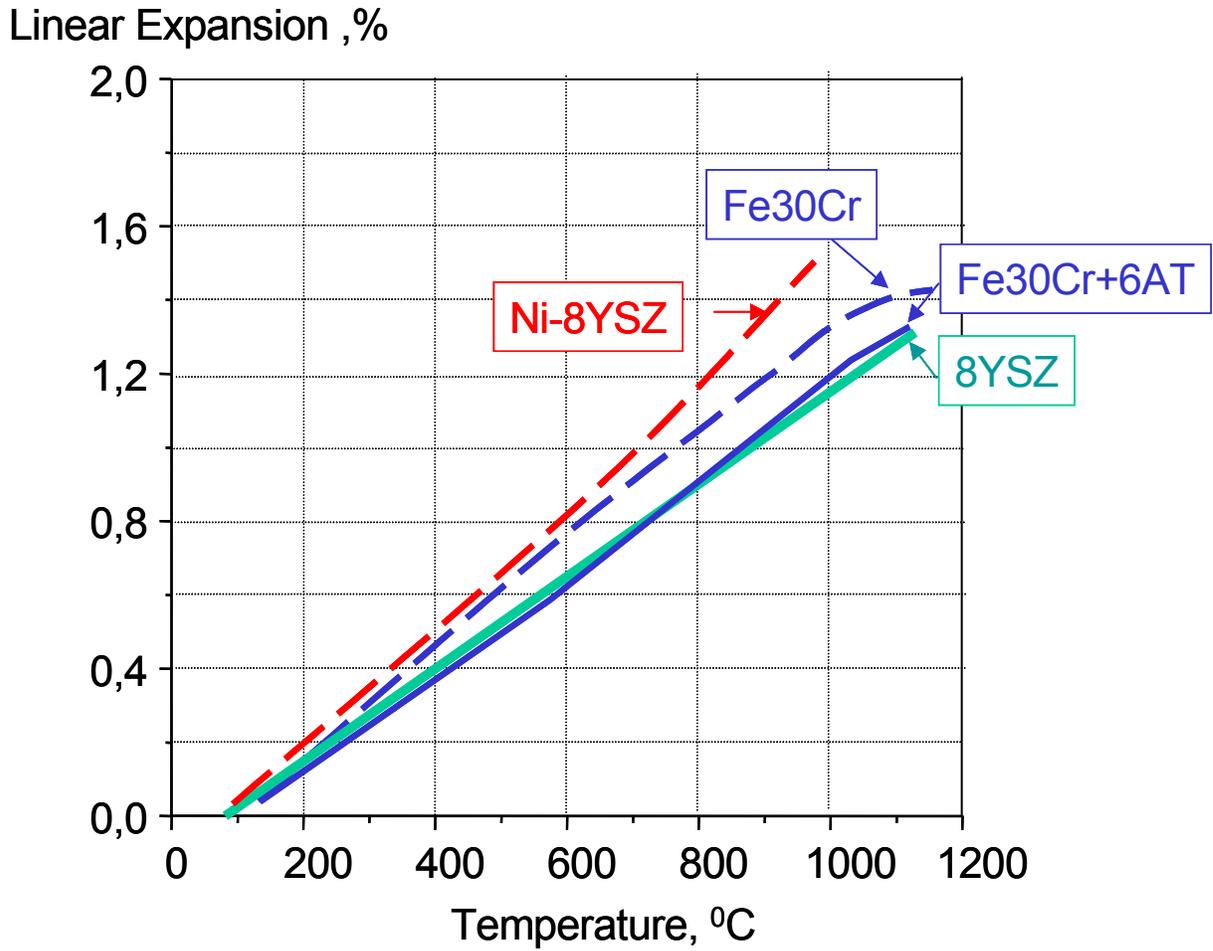


Fig. 3. Thermal expansion of 8YSZ electrolyte, Ni/8YSZ anode, Fe30Cr alloy, and Fe30Cr- 6AT.

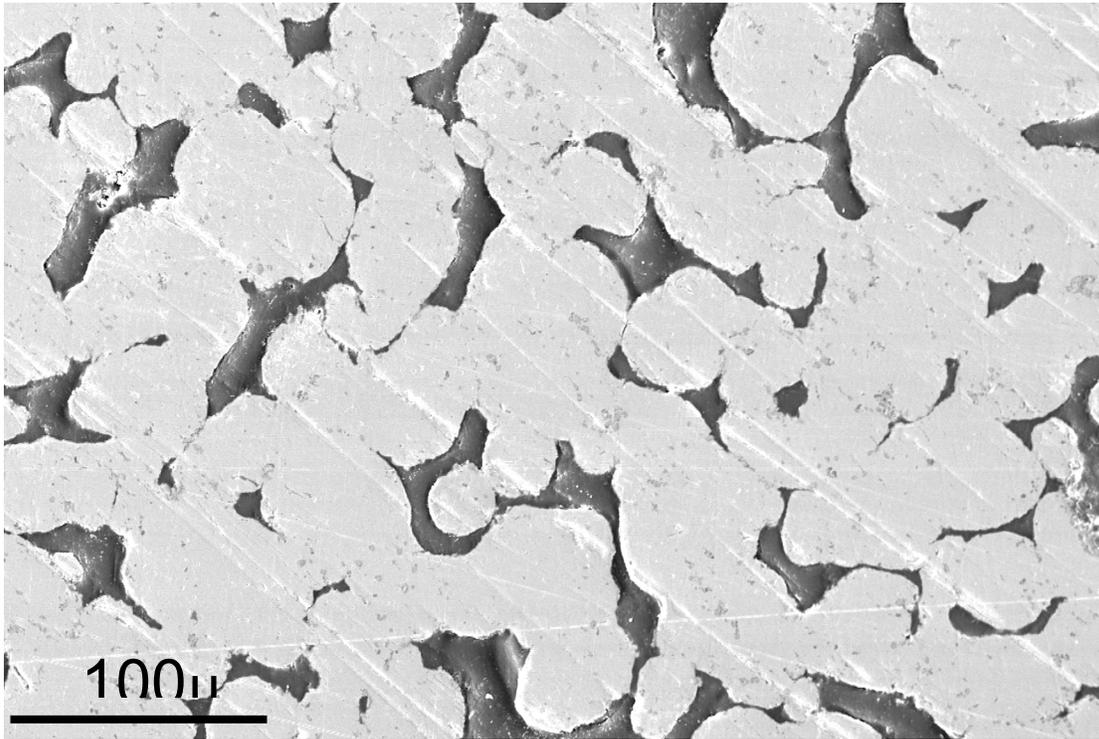


Fig. 4. Scanning electron microscope image of a polished cross section of the cermet support. Distributed particles of AT may be discerned. The dark areas are the mounting epoxy needed to allow polishing

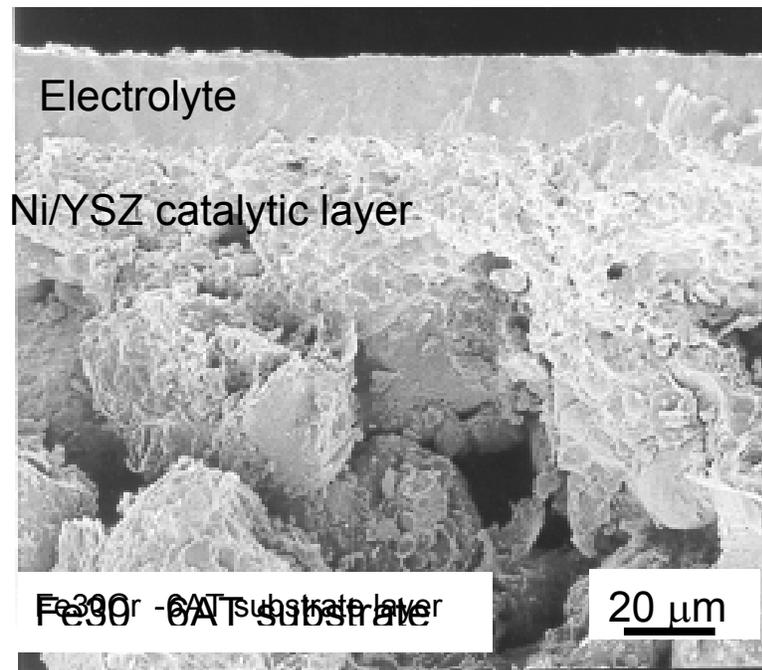


Fig. 5. Fracture cross-section of Fe<sub>30</sub>Cr+6AT supported SOFC electrolyte layer after co-firing at 1350°C.

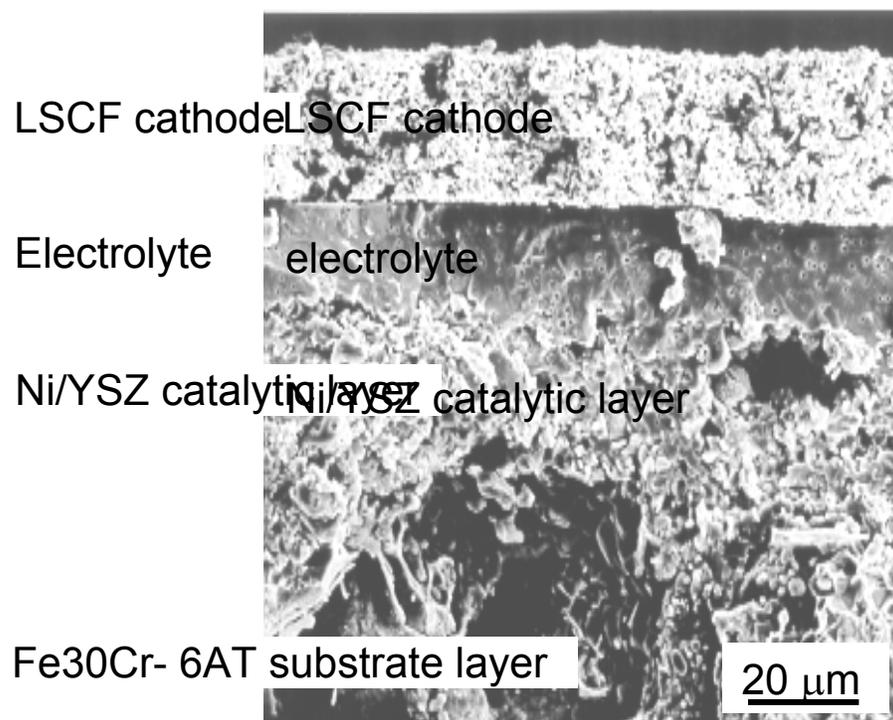


Fig.. 6. Fracture cross section of a complete Fe<sub>30</sub>Cr+6AT-supported SOFC membrane after firing at 1300°C.

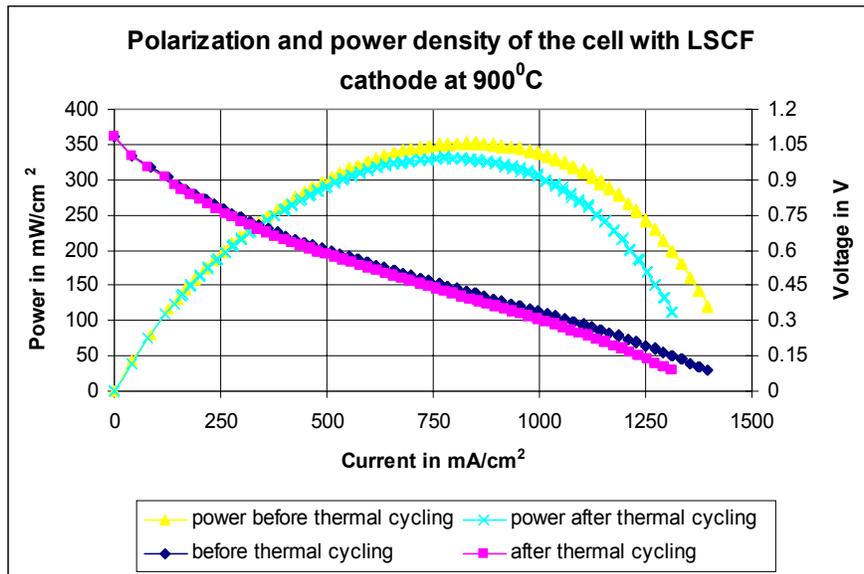


Fig.7 Power density and polarization of the Fe<sub>30</sub>Cr+6AT supported fuel cell with LSCF cathode before and after thermal cycling at 900°C.